Stainless, austenitic-ferritic chromium-nickel-molybdenum steel 1.4462

C ≤ 0,03 / Cr 21,0 – 23,0 / Ni 4,5 – 6,5 / Mo 2,5 – 3,5 / N 0,1 – 0,2
1.4462 / X2 CrNiMoN 22-5-3 / DIN EN 10088 / DIN 17440
AISI (317 LMN)*

Applications

Petrochemical industry; mechanical engeneering; chemical industry; food industry/agricultural engeneering; nautical gear; military engeneering; construction industry; marine technology.

Processing techniques

Machining; open-die and drop forging.

up to 280 °C

Corrosion resistance ●●●●●

Good corrosion resistance in acid media and in media containing chloride, especially phosphoric and organic acids. The austenitic-ferritic structure increases the resistance to stress corrosion cracking, which is superior to that of austenitic steels.

Mechanical properties ●●●●○

Optimal processing properties are achieved by means of heat treatment in the temperature range of between 1020 and 1100 °C followed by rapid cooling in air or water.

Forging ●○○○○

Slow heating to 1100 °C. Hot-forming in the range of between 1200 and 950 °C. Subsequent heat treatment is necessary.

Welding ●○○○○

1.4462 is weldable to a limited extent. The welding conditions are dependent on the respective welding process.

Machining ●○○○○

Due to its two-phase structure (aus-tenite/ferrite) and the high strength properties, machining is complicated.

Note

1.4462 is sensitive to thermal shock.

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* See "international comparison of materials"